

AMENDMENTS TO THE CLAIMS

1. (currently amended)

~~An apparatus for monitoring the level of a liquid in a vessel, the apparatus comprising~~ A bubbler comprising:

a metallic vessel having an outer wall and an internal cavity, the metal vessel constituting a first electrode;

an outlet extending through the outer wall of the vessel, the outlet being adapted and configured to allow gas to pass from the internal cavity of the vessel to an environment external to the vessel;

a conduit extending through the outer wall of the vessel and into the internal cavity of the vessel, the conduit being adapted and configured to allow a gas to be pumped into the internal cavity of the vessel;

at least one metallic probe hermetically sealed within the vessel, the probe having a sealing end from which the probe extends within the internal cavity of the vessel, and at least a portion of the probe within the internal cavity of the vessel constituting a first electrode, a second electrode, the sealing end of the probe being encased within a glass material, a second electrode spaced apart from said first electrode the sealing end of the probe being hermetically sealed to the vessel via a metal-to-glass-to-metal seal, at least a portion of the probe within the internal cavity of the vessel being devoid of any glass extending therearound, the first and second electrodes being spaced from each other in a manner such that the first and second electrode electrodes together form part of a capacitor, means for supplying an electrical current from an applied electrical current source to the capacitor, and means for

~~monitoring capacitance of the capacitor;~~

_____ a power source operatively connected to the capacitor; and

_____ a capacitance meter operatively connected to the capacitor.

2. (cancelled)

3. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 wherein the probe ~~is made of~~
comprises stainless steel.

4. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 wherein the ~~glass material is~~
metal-to-glass-to-metal seal comprises a borosilicate glass material.

5. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 wherein ~~a portion of the probe is~~
~~hermetically sealed to a port provided at the top of the vessel~~ the outer wall of the
vessel comprises a top half and a bottom half and the vessel comprises a port
extending through the top half of the outer wall, and wherein the metal-to-glass-to-metal
seal hermetically seals the port.

6. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 5 wherein the ~~probe is sealed within a mounting that is inserted into the port of the vessel~~ metal-to-glass-to-metal seal comprises a mounting member having a metal gasket face, the metal gasket face forming a metal-to-metal hermetic seal with the port of the outer wall of the vessel.

7. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 6 wherein the mounting comprises ~~electrical connections for~~ at least one electrical connection that operatively connects the power source and the capacitance meter to the probe.

8. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 wherein the probe comprises a coating of an elastomeric material over ~~at least a portion of the probe~~ the portion of the probe within the internal cavity of the vessel that is devoid of any glass extending therearound.

9. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 wherein ~~at least the sealing end of the probe comprises~~ the metal-to-glass-to-metal seal comprises a portion of the probe that is formed of a nickel alloy.

10. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 9 wherein the nickel alloy is ~~an Inconel or Kovar alloy~~ consist of one of first and second materials, the first material consisting essentially of at most 0.01 percent carbon, at most 2.5 percent cobalt, from 14.5 to 16.5 percent chromium, from 4.0 to 7.0 percent iron, at most 1.0 percent manganese, from 15.0 to 17.0 percent molybdenum, at most 0.04 percent phosphorus, at most 0.03 sulfur, at most 0.08 percent silicon, at most 0.35 percent vanadium, and the remainder being nickel, the second material consisting essentially of at most 0.02 percent carbon, approximately 17.0 percent cobalt, approximately 0.3 percent manganese, approximately 29.0 percent nickel, approximately 0.2 percent silicon, and the remainder being iron, all percentages being percentages by weight.

11. (currently amended)

~~An apparatus~~ A bubbler as claimed in ~~claim 10~~ claim 9 wherein the nickel alloy contains at least one of aluminum and titanium.

12. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 11 wherein the nickel alloy is ~~Inconel X-750~~ consists essentially of at most 0.08 percent carbon, at most 0.35 percent manganese, at most 0.015 percent phosphorus, at most 0.015 percent sulfur, at most 0.35 percent silicon, from 14.0 to 17.0 percent chromium, approximately 70.0 percent nickel, at most 0.50 copper, from 5.0 to 9.0 percent iron, from 0.4 to 1.0 percent aluminum, from 2.25 to 2.75 percent titanium, from 0.7 to 1.2 percent of niobium and

tantalum combined, and at most 1.0 percent cobalt, all percentages being percentages by weight.

13. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 6 wherein at least a portion of the mounting is made member is formed of a nickel alloy.

14. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 13 wherein the nickel alloy is ~~Inconel X-750~~ consists essentially of at most 0.08 percent carbon, at most 0.35 percent manganese, at most 0.015 percent phosphorus, at most 0.015 percent sulfur, at most 0.35 percent silicon, from 14.0 to 17.0 percent chromium, approximately 70.0 percent nickel, at most 0.50 copper, from 5.0 to 9.0 percent iron, from 0.4 to 1.0 percent aluminum, from 2.25 to 2.75 percent titanium, from 0.7 to 1.2 percent of niobium and tantalum combined, and at most 1.0 percent cobalt, all percentages being percentages by weight.

15. (cancelled)

16. (currently amended)

~~An apparatus~~ A bubbler as claimed in ~~claim 15~~ claim 1 further comprising a recorder for ~~recording a change in capacitance~~ operatively connected to the capacitance meter.

17. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 16 ~~further comprising display means for displaying wherein the bubbler further comprises a display device and is adapted and configured to display a level of liquid in the vessel via the display device.~~

18. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 ~~further comprising calibration means for calibration of the apparatus whereby a particular capacitance corresponds to a particular volume of liquid within the vessel wherein the apparatus is configured and adapted to correlate capacitance measurements made by the capacitance meter to volumes of liquid within the vessel.~~

19. (currently amended)

~~An apparatus~~ A bubbler as claimed in claim 1 ~~that wherein the bubbler is~~ configured and adapted to monitor a level of organometallic compounds.

20. (cancelled)

21. (cancelled)

22. (currently amended)

A ~~method for~~ method of monitoring the level of an organometallic compound in a vessel, the method comprising the steps of inserting at least one metallic probe having a sealing end into a vessel in a manner such that the metallic probe acts as a first electrode and such that ~~[[one]]~~ the sealing end of the probe is encased in a glass material, hermetically sealing the sealing end of the probe ~~encased in a glass material~~ within the vessel via a metal-to-glass-to-metal seal wherein the glass material encasing the sealing end of the probe constitutes the glass in the metal-to-glass-to-metal seal, providing a second electrode in a manner such that the first and second electrodes form a capacitor, ~~applying and~~ applying an electric current to the capacitor and monitoring capacitance of the capacitor.